National Transportation Safety Board

PRELIMINARY REPORT AVIATION

NTSB ID: ERA09FA537		Most Critical Injury: Fatal
Occurrence Date: 09/25/2009		Investigated By: NTSB
Occurrence Type: Accident		

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone	
Georgetown	SC	29440	2331	EDT	

Aircraft Information

Registration Number	Aircraft Manufacturer	Model/Series Number
N417AE	EUROCOPTER	AS-350/B2

Type of Aircraft: Helicopter	Amateur Built Aircraft? No	

Injury Summary:	Fatal 3	Serious	Minor	None

Revenue Sightseeing Flight: No Air Medical Transport Flight:

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

On September 25, 2009, at approximately 2331 eastern daylight time, a Eurocopter AS 250B2, N417AE, Operated by Omniflight Helicopters Incorporated, was substantially damaged when it impacted terrain near Georgetown County Airport (GGE), Georgetown, South Carolina. The certificated commercial pilot, flight nurse, and paramedic were fatally injured. Instrument meteorological conditions prevailed, and a company visual flight rules (VFR) flight plan was activated for the 14 Code of Federal Regulations Part 91 positioning flight which departed from Charleston Air Force Base/International Airport (CHS), Charleston, South Carolina, destined for Conway-Horry County Airport (HYW), Conway, South Carolina.

According to the operator, the accident helicopter departed from its base at HYW at 2023 to Georgetown Memorial Hospital to conduct an inter facility transfer to Medical University of South Carolina (MUSC), Charleston, South Carolina.

The helicopter landed at Georgetown Memorial Hospital at 2041, picked up a 10-year old girl in respiratory distress and departed for MUSC at 2107. At 2135 the helicopter landed at MUSC and offloaded the patient. The helicopter departed MUSC at 2225 for CHS, and landed there at 2232.

After refueling, the helicopter departed for HYW at 2302. The pilot advised MUSC flight control that he had 2 hours and 45 minutes of fuel onboard, would be flying at 1,500 feet above mean sea level (msl), and estimated arrival at HYW in 45 minutes.

At 2316, the pilot advised the communications specialist in MUSC's flight control via radio, that they were at 1,000 feet msl, indicating 110 knots, and estimating that they should arrive in 29 minutes. No further communications from the pilot were received.

According to preliminary information provided by the Federal Aviation Administration (FAA), at 2305, the accident helicopter had departed CHS, eastbound, VFR, receiving flight following to Mt. Pleasant Regional Airport-Faison Field (LRO), Mount Pleasant, South Carolina. The pilot reported LRO in sight at 6 miles at 2309, and CHS tower terminated service. The accident helicopter then flew past LRO towards GGE.

When the SROC was contacted to request an Alert Notice (ALNOT) be issued, The SROC called CHS tower who reviewed the radar data in an attempt to locate the accident helicopter and observed that it had continued past LRO. Radar data also showed weather 20 to 30 miles east of LRO. At 0122 after determining the last recorded radar position, CHS tower forwarded the information to the Georgetown County Sheriff's Office, and Jacksonville Air Route Traffic Control Center (ZJX).

A weather observation taken at CHS about 9 minutes prior to the accident helicopter's departure, recorded the wind as 020 degrees at 11 knots, visibility 10 miles, scattered clouds at 2,000 feet, broken clouds at 6,000 feet, broken clouds at 8,000 feet, temperature 26 degrees Celsius, dew point

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Narrative (Continued)

23 degrees Celsius, and an altimeter setting of 30.09 inches of mercury.

Twenty-three minutes after the accident helicopter departed however, light rain began to fall at CHS.

Review of preliminary radar data provided by the National Oceanic and Atmospheric Administration revealed that after passing LRO, the helicopter entered an area of convective activity and precipitation.

Weather reports for the area surrounding the accident site were not available, as the automated weather observation station at GGE had been out of service for approximately 6 weeks; however, witnesses who observed the helicopter just prior to the accident described its flight path as paralleling US Route 17, in the direction of GGE, in moderate to heavy rain.

Radar data and satellite tracking of the flight indicated the last target was located approximately 1.92 nautical miles southwest of GGE, which coincided with the approximate location of the actual wreckage.

Examination of the accident site and wreckage by National Transportation Safety Board (NTSB) investigators revealed visible scorching of the trees surrounding the main wreckage to an approximate height of 30 feet above the ground, and that the helicopter had impacted terrain in an approximate 60-degree nose down attitude.

Further examination revealed that the wreckage had come to rest inverted in sawdust and loose soil on a magnetic heading of 156 degrees, and a postcrash fire had had consumed the majority of the helicopter.

Evidence of unburned jet fuel also existed at the scene. The debris path was approximately 22 feet long and 39 feet wide, and a 3-foot deep crater existed beneath the main wreckage.

All the major components of the helicopter were accounted for at the scene. Examination of the main wreckage revealed no evidence of any preimpact failures or malfunctions of the engine, drivetrain, main rotor, tail rotor, or structure of the helicopter. Additionally, there was no indication of an in-flight fire.

The surviving portions of the airframe displayed heavy crush and compression damage. No preimpact damage of the starflex hub was discovered and the main rotor mast had remained attached to the main rotor hub and main gearbox. All three pitch-links displayed varying degrees of damage but had remained attached at their attachment fittings.

All three main rotor blades displayed differing degrees of impact damage. The yellow blade was found with its outboard end buried in the soil approximately 2-feet below ground level, the blue blade was bent back on itself at a 45-degree angle at approximately the mid-span position, and the red blade was located underneath the wreckage.

The tail rotor was found still attached to the tail rotor gearbox. Examination of the tail rotor revealed that, the tail rotor’s Impact fingers (strike indicators) were bent in, however, the blades, spar, blade cuffs, and pitch change links, exhibited no visible damage.

Examination of the main rotor control system which was made of control linkages between the cyclic control stick, collective pitch lever, and main rotor swashplate revealed, impact damage and multiple fractures of the torque tubes and push-pull tubes that made up the system. The breaks in the system were consistent with overload.

Examination of the tail rotor control system which consisted of the tail rotor control pedals,

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rocker arm, control rods, bellcranks, and input rod also revealed impact damage and multiple fractures of the components which were consistent with overload.

Examination of the surviving flight instruments revealed that the attitude indicator's instrument face was missing. Internal examination of the attitude indicator revealed however, the presence of rotational scoring. The turn and slip indicator's needle was fused in the left turn position. The horizontal situation indicator (HSI) bug was found to be in the 198-degree position and the HSI was indicating 120 degrees. The radar altimeter's bug was in the 200-foot position.

Examination of the surviving engine instruments revealed that the T4 indicator (exhaust gas temperature) was indicating approximately 600 degrees Celsius, and the torque indicator was indicating approximately 45 percent.

Cursory examination of the engine revealed that it was also inverted. It exhibited damage from impact forces and the postcrash fire. Both front and rear engine mounts had separated at the airframe connection. Evidence of rotation was observed at both the axial compressor and power turbine blades. The axial compressor exhibited damage from ingestion of foreign objects and all blades were eroded. The power turbine blades were intact and blade tip rub was observed on the casing. Both the engine starter and fuel control unit (FCU) had separated from the accessory gearbox. Both FCU drive shafts were intact and the FCU fuel pipe connections were intact. The FCU fuel flow lever and anticipator lever were broken consistent with overload and exhibited fire damage. The fuel flow indicator pointer was at 61 degrees. The anticipator pointer and scale exhibited fire damage and was unreadable.

The engine to aircraft transmission shaft was broken on both ends at the base of each flange. The flex couplings were attached to the transmission and the engine respectively. Rotational scoring was observed on the flange that connects to the engine drive shaft. The engine drive shaft nut and lock also exhibited rotational scoring.

According to FAA and maintenance records, the accident helicopter was manufactured in 2000 by Eurocopter. It was not approved for operation in instrument meteorological conditions (IMC), was not equipped with a night vision imaging system, was not equipped with an autopilot, and was not equipped with a terrain avoidance warning system. The most recent 500-hour inspection was completed on September 17, 2009. At the time of the inspection, the helicopter had accrued 2,967.3 total hours of operation.

According to Federal Aviation Administration (FAA) records, the pilot held a commercial pilot certificate with ratings for airplane single-engine-land, airplane-multiengine-land, rotorcraft-helicopter, and instrument airplane and helicopter. He did not meet instrument currency requirements as would be required by federal aviation regulations for flight conducted in IMC. His most recent FAA second-class medical certificate was issued on July 21, 2009. He reported a total flight time of 4,600 flight hours on that date.

The helicopter was retained by the NTSB for further examination.
Updated on Oct 9 2009 5:29PM

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Other Aircraft Involved

Registration Number	Aircraft Manufacturer	Model/Series Number

Accident Information

Aircraft Damage: Substantial

Accident Occurred During:

Crew	Name	Certificate No.	Injury
Pilot	On File		Fatal
2			
3			
4			
5			
6			

Operator Information

Name	Operator Designator Code	Doing Business As
Omniflight Helicopters Inc.	RMXA	Carolina Life Care

Street Address	City	State	Zip Code
4650 Airport Parkway	Addison	TX	75001

-Type of Certificate(s) Held:

Air Carrier Operating Certificate(s): On-demand Air Taxi

Operating Certificate:

Operator Certificate:

Regulation Flight Conducted Under: Part 91: General Aviation

Type of Flight Operations Conducted: Positioning

Flight Plan/Itinerary

Type of Flight Plan Filed: Company VFR

		State	Airport Identifier
Last Departure Point	Charleston	SC	CHS
Destination	Conway	SC	HYW

Weather Information

Investigator's Source: Company

Facility ID: CHS

Observation Time (Local): 2252

Sky/Lowest Cloud Condition: Scattered 2000 Ft. AGL

Lowest Ceiling: Broken 6000 Ft. AGL

Visibility: 10 SM

Altimeter: 30.09 "Hg

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Weather Information

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Temperature:	26 °C	Dew Point:	23 °C	Wind Direction:	20
Wind Speed:	11 Kts.	Gusts:	Kts.	Weather Conditions at Accident Site:	Instrument Conditions

Administration Data

Notification From: NTSB Comm Center	Date:
FAA District Office/Coordinator: FAA/AVP-100, Floyd A. James	Investigator-In-Charge (IIC): Todd G. Gunther